

# 中国电力需求侧管理 工作现状与政策趋势

**Demand Side management in China  
Current Situation and Policy Trend**

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*October 13, 2016 Beijing*

# 提纲

## Introduction

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- ▶ 一、“十二五”电力需求侧管理工作及成效  
China's DSM work and its achievements during the 12<sup>th</sup> Five-year plan period
- ▶ 二、电力需求侧管理面临的新形势和新机遇  
China's DSM work now is facing new situation and new opportunities
- ▶ 三、“十三五”期间电力需求侧管理工作思路  
New Thoughts of China's DSM work in the 13<sup>th</sup> Five-year plan period

# 一、“十二五”电力需求侧管理工作及成效

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- ▶ “十二五”，中国电力供需形势由紧张逐步转为宽松  
China's power supply and demand situation has gradually transferred from tension to loose during the 12<sup>th</sup> Five-year plan period.
- ▶ 电力需求侧管理发挥了非常重要的作用：  
DSM has played an important role in :
  - 紧张时期保平衡  
balancing the power supply and demand in short supply
  - 宽松时期提能效  
promoting energy efficiency improvement when the supply is adequate

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### (一) 电力需求管理是“十二五”节能减排工作的重要组成部分

DSM is an important part of China's energy conservation and emission reduction work during the 12th Five-year plan period

- ▶ 2011年，DSM 写入了国务院印发的《“十二五”节能减排综合性工作方案》

In 2011, The State Council issued the *Comprehensive Work Plan for Energy Conservation and Emission Reduction in the 12th Five-year period* , and DSM was included in the file.

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### 一是强化电网企业考核 Assessment of grid company

- ▶ **要求：**自2012年，电网自行开展和引导用户节约电力电量  
Require the grid company to carry out DSM work by themselves and guide the users to participate in DSM work since 2012.
- ▶ **目标：**每年需分别节约上年售电量和最高负荷的0.3%  
Set goals for grid company: annual electricity saving index is 3 ‰ of electricity sales, electric saving index is 3 ‰ of peak load last year.
- ▶ **成效：**“十二五”累计节约电量549亿kWh，节约电力1262万kW  
Results: cumulative electricity saving has reached 54.9 TWh, and cumulative electric saving has reached 12.62 GW by the end of the 12<sup>th</sup> Five-year plan period.

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### 二是开展综合试点 City pilot work

- ▶ **DSM试点城市：**北京、苏州、唐山、佛山四个试点城市  
DSM pilot cities: Beijing, Foshan , Suzhou, and Tangshan
- ▶ **综合措施：**能效电厂、需求响应等  
Comprehensive measures : Electricity Power Plant (EPP) ,Demand Response (DR), etc.
- ▶ **成效：**2013-2015年累计削减高峰负荷283万千瓦  
Result: cumulative peak load reduction of the four cities has reached to 2.83 GW from 2013 to 2015.

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### 三是加强平台建设 DSM platform

- ▶ **重点工作：** 建立并完善电力需求侧管理平台

Key job: establish and improve DSM platforms

- ▶ **功用：** 实现在线监测、宏观经济分析等工作的数字化、网络化、可视化，提高用电服务水平

Function: make the online monitoring, macroeconomic analysis and other work become digital, networked and visible, and improve power service level.

- ▶ **成效：** 目前，我国用电负荷监测能力已达到70%以上，负荷控制能力已达到15%以上。

Results: China's power load monitoring ability has reached more than 70%, power load control capacity has reached more than 15%.

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### 四是推广节能服务产业 ESCOs industry

- ▶ **措施：** 财政支持、价格激励、市场化模式探索等  
Main methods: financial support, price incentive, market-oriented exploration, etc.
- ▶ **成效：** Results
  - 全国已有数千家电能服务企业，数十万从业人员  
China now has thousands of ESCOs specialized in electricity saving with hundreds of thousands of employees.
  - 国家电网公司、南方电网公司以及各地均成立了节能服务公司  
State Grid Company of China, China Southern Power Grid Company and all provinces have already established their ESCOs .

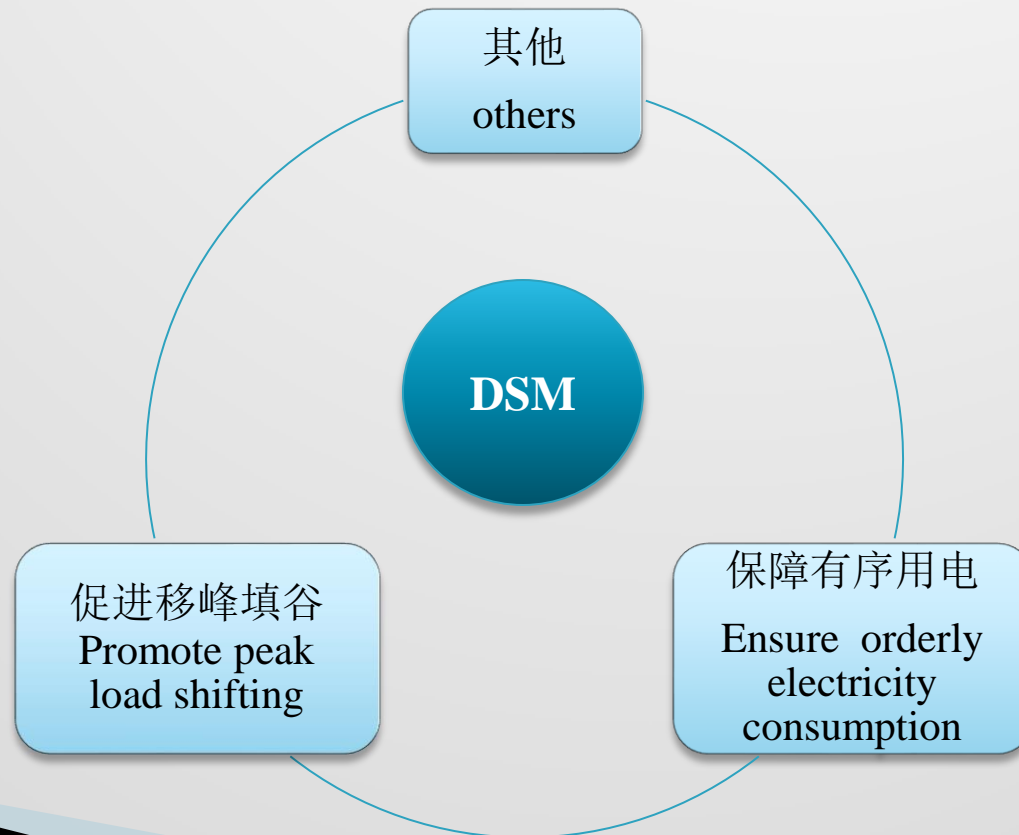
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(二) 电力需求侧管理是促进电力平衡的有效手段

DSM is an effective way to balance power supply and demand



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### 一是规范做好有序用电

Regulate and strengthen orderly power management

- ▶ **政策：** 出台《有序用电管理办法》-限电、保电顺序

Policy: Issued the *Measure for Orderly Power Management* to make sure mandatory power curtailment and power supply in order

- ▶ **成效：** 电力迎峰度夏期间，通过有序用电转移高峰负荷最大达到1600万千瓦。

Result: successfully reduced peak load by 16 GW through orderly power management measures during peak hours of summer

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### 二是尝试需求响应 Application of Demand Response (DR)

- ▶ 上海和综合试点的需求响应工作：完善需求响应平台，明确规范标准，探索电网、负荷集成商、用户共同参与的市场化商业模式  
DR application in Shanghai and pilot cities: developing DR platforms, defining related regulations and standards, and exploring market-oriented business mode includes grid companies, aggregators and users
- ▶ 工作成效 results
  - 上海市:形成需求响应能力:高峰时段20万千瓦，常规时段50万千瓦  
Shanghai: DR capacity of 200MW during peak hours, 500MW during normal hours.
  - 江苏省:连续两年实施全省范围内需求响应，最高削减高峰负荷352万千瓦。  
Jiangsu Province: DR has been implemented for two years, the maximum peak load reduction reaches 3.52GW.

## 二、电力需求侧管理面临的新形势和新机遇

### China's DSM work now is facing new situation and new opportunities

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#### (一) 新形势 New Situation

- ▶ 电力总体供大于求

Power supply exceeds demand in general

- ▶ 可再生能源消纳矛盾突出

Conflict in renewable energy (RE) generation and consumption

- ▶ 供给侧结构性改革任务紧迫

The tasks of supply-side structural reform is urge.

## 二、电力需求侧管理面临的新形势和新机遇

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#### (二) 新内涵 New contents

- ▶ DSM是用户供给侧改革的重要内容  
DSM is an important part of supply- side structural reform
- ▶ DSM是促进清洁能源消纳的有效手段  
DSM is an effective way to promote RE consumption

#### (三) 新机遇 New opportunities

- ▶ 新一轮电力体制改革提供了新的机遇  
New round of China power system reform brings to DSM work new opportunities

# 三、“十三五”期间电力需求侧管理工作思路

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### (一) 更好的服务于电力体制改革

Provide better service to China power system reform

#### ▶ 一是细化落实优先购电制度

Specify and implement priority purchase system

细化优先购电用户的类别和保障方式

Specify priority users' classification and support measures.

#### ▶ 二是探索市场机制建设

Explore to establish market mechanisms

-总结需求响应试点经验，考虑向全国推广

Summarize valuable experience learned from DSM pilot work and then promote

-完善需求响应工作中的市场化机制

Further develop market mechanisms of DR work

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### （二）实施电能替代 Implement electricity substitution work

- ▶ 创新电能替代领域、替代方法和替代内容  
Innovate fields, measures and contents of electricity substitution work.
- ▶ 进一步扩大电能替代范围和实施规模  
Further expand the scope and scale of electricity substitution work

### （三）促进可再生能源消纳 Promote RE consumption

- ▶ 加强消费与生产的协同互动，从需求侧促进可再生能源电力的有效消纳利用，推进能源绿色转型与温室气体减排
  - Strengthen cooperative interaction of RE generation and consumption;
  - Promote RE consumption from demand side;
  - Enhance green transformation and emission reduction.

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### （四）提高智能用电水平

Improve the level of intelligent electricity consumption

- ▶ 推动用电技术进步

Make progress in electricity consumption technology

- ▶ 促进效率提升和组织变革

Promote efficiency improvement and structure reform

- ▶ 创新用电管理模式

Innovate electricity management models

- ▶ 培育电能服务新业态

Cultivate new ESCOs business

THANK YOU!

谢谢!